CLAIMS

1. A device for current reversal, in particular a commutator (1; 101; 201) with a preformed, more or less cylindrical outer cover (3; 103; 203; 303) having an axis of rotation (2; 102; 202; 302) and electrically conductive current reversal or commutator segments (4; 104; 204; 304) which may be fastened on the outer cover (3; 103; 203; 303) by means of a bonding agent (5; 105; 205; 305) applied more or less between it and the segments (4; 104; 204; 304), *characterized in that* the outer cover (3; 103; 203; 303) and the segments (4; 104; 204; 304) have interactive means (3', 3", 4"; 4a"; 106, 107, 309, 311) for positioning and orienting the segments (4; 104; 204; 304) relative to the outer cover (3; 103; 203; 303).

2. A device as specified in Claim 1, *wherein* the bonding agent (5; 105; 205; 305) is an adhesive layer, preferably an adhesive layer of an epoxy resin, polyurethane resin, or phenol resin.

3. A device as specified in Claim 2, *wherein*, in a planar commutator (101; 201) the commutator segments (104; 204) may be fastened by means of an adhesive layer, the commutator segments (104; 204) preferably by means of an electrically conductive adhesive layer (105; 205) on pertinent connection means (103'; 203').

4. A device as specified in Claim 1, *wherein* the bonding agent (5; 105; 205; 305) is a soldered or welded layer, in particular a soft, hard, or glass solder layer or an ultrasound, friction, or electrode welded layer.

5. A device as specified in one of Claims 1 to 4, *wherein* the segments (4; 104; 204; 304) and the outer cover (3; 103; 203; 303) have frictionally connected interacting anchor and receiving means (4c'; 4d'; 4e').

6. A device as specified in Claim 5, *wherein* the anchor means (4c'; 4d'; 4e') and the pertinent receiving means on the outer cover (3; 103; 203; 303) are designed from the viewpoint of geometry and materials so that the segments (4; 104; 204; 304) may be inserted radially in relation to the axis of rotation (2; 102; 202; 302) into a circumferential surface or axially into a frontal surface of the outer cover (3; 103; 203; 303).

7. A device as specified in Claim 5 or 6, *wherein* the anchor means (4c'; 4d'; 4e') are formed by positioning and orienting means.

8. A device as specified in one of Claims 1 to 7, *wherein* the means (3', 3", 4"; 4a'; 106, 107; 309, 311) for positioning and orienting extend parallel to the axis of rotation along a circumferential surface of the outer cover (3; 103; 203; 303) and/or radially along a frontal surface of the outer cover (3; 103; 203; 303).

9. A device as specified in one of Claims 1 to 8, *wherein* a clamp connection between outer covers (3; 103; 203; 303) and segments (4; 104; 204; 304) may be produced by configuration of the means (3', 3", 4"; 4a"; 106; 107; 309, 311) on the basis of geometry and materials.

10. A process for manufacture of a current reversal means, a commutator in particular (1; 101; 201), comprising the steps:

- molding a more or less cylindrical outer cover (3; 103; 203; 303) having an axis of rotation (2, 102; 202; 302),

- molding electrically conductive current reversal or commutator segments (4; 104; 204; 304) which may be fastened on the outer cover (3; 103; 203; 303),

- delivery of the segments (4; 104; 204; 304), relative to the axis of rotation (2; 102; 202; 302), in a radial direction to a circumferential surface of the outer cover (3; 103; 203; 303) or in an axial direction to a frontal surface of the outer cover (3; 103; 203; 303),

- positioning and orienting the segments (4; 104; 204; 304) relative to the outer cover (3; 103; 203; 303) during delivery to the outer cover (3; 103; 203; 303) and the segments (4; 104; 204; 304) by interacting means (3', 3", 4"; 4a'; 106, 107; 309, 311) each preferably in one piece), and

- fastening of the segments (4; 104; 204; 304) on the outer cover (3; 103; 203; 303) by bonding means (5; 105; 205; 305) mounted more or less between the outer cover (3; 103; 203; 303) and the segments (4; 104; 204; 304).

11. A process as specified in Claim 10, *wherein* adhesion, soldering, or welding takes place between segments (4; 104; 204; 304) and outer cover (3; 103; 203; 303).

12. A process as specified in Claim 11, *wherein*, in the case of a planar commutator (101; 201) the commutator segments (104; 204) are fastened by means of an adhesive layer, commutator segments (104; 204), preferably containing carbon, by means of an electrically

conductive adhesive layer (105, 205) on accompanying connection means (103'; 203').

13. A process as specified in one of Claims 10 to 12 , *wherein*, during fastening, receiving means (4c'; 4d'; 4e') preferably molded on segments (4; 104; 204; 304) are clamped in corresponding receiving means, ones preferably molded on the outer cover (3; 103; 203; 303).

14. A process as specified in one of Claims 10 to 13, *wherein* the segments (4; 104; 204; 304) are delivered sequentially to the outer cover (3; 103; 203; 303).

15. A process as specified in one of Claims 10 to 13, *wherein* a plurality, preferably all, of the segments (4; 104; 204; 304) to be fastened on the outer cover (3; 103; 203; 303) are delivered to the outer cover (3; 103; 203; 303) simultaneously.